DOCUMENT RESUME

ED 267 410 CS 209 592

AUTHOR	Engen-Wedin, Nancy; Collins, Terence
TITLE	Composition, Word Processing, and the Learning Disabled College Writer: An Annotated Bibliography.
INSTITUTION	Minnesota Univ., Minneapolis. General Coll.
SPONS AGENCY	Department of Education, Washington, DC.
PUB DATE	Jan 86
NOTE	68p.; Publication of the Learning Disabled College Writers Project.
AVAILABLE FROM	Learning Disabled College Writers Project, University of Minnesota, General College, 106 Nicholson Hall, 216 Pillsbury Drive, S.E., Minneapolis, MN 55455 ($5.00, prepaid, checks only).
PUB TYPE	Reference Materials - Bibliographies (131) -- Information Analyses (070)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	Annotated Bibliographies; *Computer Assisted Instruction; Higher Education; *Learning Disabilities; *Microcomputers; Research Projects; Word Processing; *Writing Processes; *Writing Research; Writing Skills
IDENTIFIERS	Learning Disabled College Writers Project

ABSTRACT

The annotated bibliography presented in this document reflects the focus of the first year of a three-year federally funded research program intended to shed light on the writing processes of learning disabled college-aged writers. With special emphasis on the use of technology in creating workable, mainstreamed curricula, this bibliography incorporates studies about whether inexpensive microcomputers and commercially produced word-processing software can improve the attitudes and performance of learning disabled writers. The introduction provides an overview of the project and comments on the items included in the literature review. Annotated entries are coded according to one or more of the following categories: the role of microcomputers in mainstream writing instruction; characteristics of learning disabled college students; writing instruction for learning disabled college students, with special attention to applications on microcomputers; and writing-related career and vocational options for learning disabled college students. (EL)

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Composition, Word Processing, and the Learning Disabled College Writer: An Annotated Bibliography

ED267410

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January 1986

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Research supported in part by a grant from the U. S. Department of Education

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The Learning Disabled College Writers Project is a three year federally sponsored program of the General College of the University of Minnesota. It examines mainstreamed pedagogy addressing the deficits and problems of learning disabled students in college writing courses, with a special emphasis on the role of widely available technology in mediating the writing problems of the LD College student. In its first year, the project has focussed exclusively on microcomputers and word-processing in the LD student writing process. The project intends its materials to be useful to mainstream writing teachers and researchers, as well as members of the learning disabilities professional and service communities, with the ultimate goal of impacting the learning disabled student's success in college and on the job market.

The literature review presented here reflects that focus. It incorporates what project staff thought to be the most useful studies impinging on the research question of how or whether inexpensive

microcomputers and commercially produced word-processing software can improve the attitudes and performance of learning disabled college writers, keeping in view both the specialist and the non-specialist audiences. As such, the literature survey combines studies from four directions:

1. The role of microcomputers in mainstream writing instruction.
2. Essential characteristics of learning disabled college students.
3. Writing instruction for learning disabled college students with a special emphasis on the role of technology.
4. Writing-related career and vocational options for learning disabled college students.

The common feature of all four areas is that the findings are preliminary. Microcomputers have been in the schools and colleges in large numbers for only little more than a decade. Easily used word-processing software has been available for an even a shorter period of time. Thus it is not surprising that the literature on writing instruction utilizing computers is tentative, contradictory, and given to testimonials. Similarly, the field of learning disabilities, if no longer in

its infancy, is passing into an unsteady toddler stage. Debate and research on what constitutes a learning disability or what diagnostic strategies are most appropriate make firm claims hard to come by. The needs and characteristics of college-aged learning disabled persons are not clearly defined. Not surprisingly, the point at which the two fields merge -- the ways in which learning disabled college students can benefit from writing instruction on microcomputers -- is only beginning to be defined.

Microcomputers and Writing Instruction

Two items in the literature review are most helpful in surveying the role of microcomputers in college writing instruction. A brief bibliography by Schwartz and Bridwell (1984) and a comprehensive annotated bibliography by Nancarrow, Ross and Bridwell (1984) chart the research trends and findings in clear and useful terms.

The emergence of a new journal, Computers and Composition, is noted in this literature review because it promises to focus dissemination of research in the field in the years to come (see entries

under Selfe and Kiefer).

The forty studies of computers and writing annotated here suggest the vitality of research in the area. Findings to date show computers to provide the most help as a writing tool in handling the surface features of texts and in improving student writers' attitudes. Several studies and a number of testimonials note the benefits to students who are poor proofreaders and suggest a sense of empowerment for the reluctant writer. But others note that "deep revision" is not consistently improved by using the computer, and that the computer may in fact introduce new problems for the student writer who learns to confuse effective writing with clean surface presentation of text. The literature also points to important considerations for the college writing instructor. Several studies suggest that the use of the microcomputer/word processor can free up instructional time that is usually spent on surface revision, thus enabling the writing instructor to concentrate on developing higher level writing skills.

These studies also have important implications for the learning

disabled writer, implications which need further testing, to be sure, but which have common-sense applications as well. The general agreement that writing on a microcomputer improves the student's ability to handle the surface features of spelling and punctuation has direct relevance to those who work with LD writers, for whom conventions of spelling and punctuation are elusive at best. Perhaps equally important is the repeated testimony that students' attitudes and self-perceptions as writers are changed positively through the use of the microcomputer in writing. The extent to which the overall text coherence and development are affected positively or negatively by the microcomputer has not yet been demonstrated. As more controlled studies emerge, however, they will be of interest to the LD community.

Characteristics of Learning Disabled College Students and of Programs to Serve Them

The learning disabled college student is no new phenomenon. High functioning LD students persist into and beyond college, but at what rates and with what sorts of difficulties it is impossible to say. The

literature surveyed maps the probable difficulties to be encountered by the LD student in college, difficulties that arise from both the limitations imposed by the disability and by the nature of post-secondary institutions.

Vogel (1982) demonstrates the need for college level programs for LD students, drawing on obligations devolving from the section 504 rulings. Hershenon (1984), while maintaining a vocational orientation, provides a good brief taxonomy of typical deficits of LD adolescents and adults. Deschler and his associates at the Kansas Institute for the Study of Learning Disabilities dilineate typical characteristics and life adjustments of young adult LDs, although their locus of study is a group of job corps participants rather than a college population.

Especially relevant to the interests of the Learning Disabled College Writers Project are those studies which examine various learning difficulties imposed by the disability. Most college writing teachers, even those who do their best to keep up with the literature on "basic writing," are unfamiliar with the learning habits and limits of LD students, who comprise some 6% of the population. While further

research and observation are needed, it is evident at face value that performance deficits resulting from negative self-concept, learned helplessness, retarded social skills, problems with perseveration, sensory discrimination problems, as well as the specific language processing problems associated with dyslexia and dysgraphia have analogues in the profiles of basic writers and in the writing process management literature and its pedagogical applications.

Overall, this aspect of the literature survey is disappointing. The field of learning disabilities has not yet had time or support to define for non-specialists those teaching interventions which are consistently effective for the LD college population.

Learning Disabled Writers, with Special Attention to Applications on Microcomputers

Learning disabled college writers are shown to have specific patterns of deficits and error patterns (Gregg, 1983). Errors in usage, punctuation, and spelling were shown to mask the performance on substantive aspects of writing among LDs. In all, there is little detailed

description of the whole-text writing patterns of college aged learning disabled writers.

There is a convergence of testimony in the literature on LD writers and the efficacy of microcomputers as a writing tool: microcomputers appear to produce positive performance and attitude outcomes across age groups among learning disabled students. As preliminary evidence, these authors' conclusions are compelling in only a limited way, since few, if any, controlled studies have validated this body of testimony.

Arkin and Gallagher (1984) theorize that their students at CUNY found word-processing to be a "by-pass" strategy for dyslexics. Arms (1984), Degnan (1985), Hummel (1984), Kerchner (1984), Littlefield (1983), Loxterman (1978), Rosegrant (1985), and Walmsley (1984) all report similar findings based on limited evidence. The word processor seems to provide consistently better surface presentation of written work, increased motivation, and better self-concept as a writer among a variety of LD populations.

The limits of the evidence in this area are worth noting. Most is

testimony based on limited personal observation in the classroom. Some studies involve young children, not yet college-aged or adult writers, and it is not clear that the same needs persist across age groups, even though the positive results seem to be similar across age groups. Those studies from which research controls were imposed involved younger populations and relatively small numbers of learning disabled subjects. One goal of the University of Minnesota Learning Disabled College Writers Project is to test the findings of such testimony in more controlled research on college LD writers.

Writing-Related Career and Vocational Options for Learning Disabled College Students

Although this section does not reflect the major focus of this review it was felt by project staff to be a key component in our project, in that the articles presented here are relevant to the needs of learning disabled college students as they proceed through any college program and as they formulate their own career goals. At this point in our literature search few useful generalizations can be gleaned from the materials we have gathered (some of these studies have

already been incorporated in the previous section, Characteristics of Learning Disabled Students), but we do expect to elaborate on this area in future literature reviews and manuscripts.

Summary

The research review which follows lists and annotates documents relevant to the question of how or whether microcomputers assist learning disabled college writers. The review looks at materials on using word processing in writing instruction; and on the needs of learning disabled college writers; and on learning disabled writers, especially insofaras word-processing assists them. Although these findings are preliminary, they appear to promise good performance and attitude outcomes for learning disabled college students.

This annotated bibliography contains entries that fall within four general categories or topic areas. To make it easier for the reader to locate a specific area or category, each annotation is coded either M, LD, C, CA (see below), to reflect the general focus of that particular article. These codes are included in brackets [ ] at the end of each citation in order to set it off from the rest of the annotation.

[M] 1. The role of microcomputers in mainstream writing instruction.

[LD] 2. Essential characteristics of learning disabled college students.

[C] 3. Writing instruction for learning disabled college students with a special emphasis on the role of technology.

[CA] 4. Writing-related career and vocational options for learning disabled college students.

Those articles/projects that seem most appropriate or relevant to the Learning Disabled College Writers Demostration Project have been examined in more depth than the articles that are relevant only to one area (such as the role of microcomputers in writing instruction). You will also notice that there are several entries that have not yet been annotated. These will be completed in the upcoming addendum that is to be finished June, 1986. Several individuals have assisted with this project. Thanks to: Lynda Price, Bill Margolis, Trudy Dunham, David Wedin and Julie Lawsen for their editorial advice.

Akst, G. (1984). Microcomputers and basic skills in college. New York: The City University of New York, Instructional Resource Center. [M & C]

This monograph is a composite of articles that emerged from a conference sponsored jointly by The City University of New York and Long Island University in spring of 1984. The reports within explore a wide variety of issues related to computer-based education in college: reviews of the available software; the development of software packages for particular skills or concepts; research in progress; improvement of student motivation; self-image and achievement through the use of computers; and general implications of computer-based instruction. These articles deal specifically with applications in reading, writing, ESL, and mathematics. The articles that are found to be relevant to our search, will be described individually in this bibliography.

Alley, G. R., Brownlee, J. E., Deschler, D. D., & White, W. J. (1982). Identification and intervention procedures for learning disabled corpsmembers in the Earle C. Clements Job Corps Center: Final report (Research Report # 64). Lawrence, KS: The University of Kansas, Institute for Research in Learning Disabilities. [LD & CA]

This is a report of a study that took place at the Earle C. Clements Job Corps Center in Morganfield, Kentucky, to develop and implement a procedure for identifying LD adolescents and adults in a job training setting, as well as implement and evaluate a learning strategies approach to improve the academic performance of corpsmembers at the center. The procedure for identifying LD corpsmembers involved the use of the Raven's Progressive Matrices (measures problem solving ability), the Woodcock Johnson Psycho-Educational Battery Written Language cluster, and the use of the Self-Rating Checklist. Learning disabled corpsmembers were also exposed to four component packets, to assess student performance and specific learning strategies in reading and mathematics. Each packet was designed to teach students how to cope with a broad array of academic and vocational demands: such as problem solving, critical listening, error monitoring, questioning, and was "written in a format conducive to group instruction in a typical classroom situation."

Riley, G., & Deschler, D. (1979). Teaching the learning disabled adolescent: Strategies and methods. Denver, CO: Love Pub. Co. [LD & C]

This text is primarily concerned with instuctional strategies and methods for assessing and enhancing the reading, writing, mathematics, social, listening, speaking, and learning skills that are common to most learning disabled adolescents. Chapter 4 (entitled "Writing: Strategies and Methods") covers the relevant literature and research in the field to construct a writing profile of LD adolescents, including typical writing competencies and deficits. Suggestions of successful assessment and intervention procedures follow. The author believes that the LD specialist's first consideration must be to deal with the student's attitudes toward writing and provides the following suggestions to help promote good attitudes toward writing: 1) LD adolescents should understand from the start that they should be primarily concerned with their ideas and not with mechanical components of writing. 2) The students should be exposed to a wide range of experiences to enhance the pool of knowledge from which they write. 3) Tape recorders can be used with LD students who are reluctant to write. 4) Some teachers find that their students enjoy keeping journals. This kind of record of their own writing can help them to understand and improve their own ability to use the written language.

Riley, G. R., Deschler, D. D., Clark, F. L., Schumaker, J. B., Warmner, M. M. (1983). Learning disabilities in adolescent and adult populations: Research implications (part III). Focus on Exceptional Children, 15, (9), 1-16. [LD]

A review of recent data-based literature regarding: 1) LD adolescents'/adults' achievement, ability, and cognitive processing; 2) the demands a regular curriculum places on LD students; and 3) and interventions being developed to help the LD student survive the curriculum. The authors organized the findings into four major areas: 1) the need for LD individuals to generalize in order to use their newly-acquired skills outside of training, 2)the need for LD students to be motivated if they are to overcome failure, 3) the relationship of learning disabilities and social skills, and 4) and the impact of the disability on the lives of LD adults.

Alley, G. R., Deschler, D.D., Clark, F. L., Schumaker, J. B. Warmner, M.M. (1983). Learning disabilities in adolescent and adult populations: Research implications (partIII). Focus on Exceptional Children, 15, (9), 3 - 16.

Arkin, M. and Gallagher, B. (1984). Word processing and the basic writer. Connecticut English Journal, 15(2), 60 - 66. [LD & M & C]

This is a description of the authors' program to teach learning disabled students to write using word processing at LaGuardia Community College. The authors' feel that "keyboarding" (the use of a keyboard similar to that of a typewriter) could serve as a "bypass strategy" for students with dyslexia, a major type of learning disability. "Apparently the act of handwriting involves transfer of information from one hemisphere of the brain to the other, a difficult act for a dyslexic. Using the keyboard is, according to several studies, a one-hemisphere function, and so enables someone to avoid a problematic process, that is, the physical act of writing." The writing classes were filled to the minimum level (12 students). Most of the students enrolled in the classes were learning disabled (pre-assessed), but some non-learning disabled students were included to fill the class to the minimum level.

The writing center consisted of 20 microcomputers and the authors chose Wordstar as the software to introduce in the Basic Writing III and Basic Composition courses, the two different writing courses in the program. The authors found that word processing not only helps the learning disabled writer, but helps the "basic writer". The authors also ascertain that at least four aspects of the writing course seemed to influence the students positively: 1) Learning to operate the word processor gave students an initial sense of achievement and expertise. 2) Seeing their work in a variety of formats made the students more conscious of the grammar, organization and content of their writing. 3) Working on word processors fostered a greater sense of collaborative learning. 4) Working on the word processor gave students who had never before experienced the "normal writing process" in full a sense of the way a piece of writing is effectively communicated.

The authors also pointed to other areas where difficulties could develop: 1) Many students could become machine dependent. 2) Many

students could substitute the "mechanics" for content, in other words students could concentrate on the physical act of writing and completely ignore what they were trying to say. 3) Student safety.

Arkin, M., Gallagher, B., Greenbaum, J., Lynch, D., Pearl, K. & Schneider, E.C. (1984). Word processing: A catalyst for the basic writing student. In G. Akst (ED.), Microcomputers and Basic Skills in College. New York: The City University of New York, Instructional Resource Center. [LD & M & C]

This article briefly explains the LaGuardia Community College Project, developed to employ the word processor as a means for teaching writing to LD students, so that they might overcome, compensate for, or bypass disabilities.

Arms, V. M. (1984, February). A dyslexic can compose on a computer. Educational Technology, pp. 39 - 41. [LD & M & C]

A case study of a dyslexic student enrolled in the author's freshman composition course.

Arms, V. (1983). Creating and recreating. College Composition and Communication, (34), 355 - 358. [C & M]

The author develops a rationale for the use of CREATE and reCREATE, software programs developed at Drexel University, in order to help students in the process of pre-writing and revision.

Auten, A. (1984, January). Computers in English: How and why? English Journal, pp. 54 - 56. [M & C]

This brief article provides a sampling of the resources that are available to teachers, and easily accessible through ERIC, on the topic of using computers in the English classroom. Ellen Nold's poetry program called SAGE; William Wresch's programs designed to help students with pre-writing and text editing; and Richard Collier's report on a study to determine the effect of computer-based text editing on the revision strategies of inexperienced writers, are just a few examples of the computer applications that are cited in this article.

Berenbaum, E. M. (1983). Writing in the special class. Topics in Learning and Learning Disabilities, 3(3), 12 - 20. [C]

The author presents educational strategies to teach mildly mentally handicapped students written expression arguing that, for most students in special education, instruction is generally limited to learning mechanical aspects of writing, reading, and mathematics. The report begins by discussing the relationship of written expression to the content areas of reading and oral language. Also addressed are the problems that special educators face in writing instruction; when to introduce writing into the curriculum and specific instructional strategies for implementing and organizing a writing program in the special education classroom.

Baum, J. (1983). Computers in the English class: With particular attention to the City University of New York (Research Monograph Report No. 6) NewYork: The City University of New York, Instructional Resource Center. (Eric Document Reproduction Service No. 239 262). [C & M]

As well as giving the rationale for the use of microcomputers in college English classrooms around the country, the author reviews current data-based literature on the subject with special attention to the project at City University of New York. Provides a sampling of software packages, such as William Wresch's Essay Writer or Helen Schwartz's SEEN, that are designed to help the student learn specific skills including: grammar, pre-writing, word processing, critical thinking, journalism, editing, proofreading, writing and poetry. The article contains a computer terminology glossary and is a good resource for English teachers.

Baum, J. (1984). Word processing in the classroom. In G. Akst (Ed.), Microcomputers and Basic Skills in College. New York: The City University of New York, Instructional Resource Center. [M & C].

This brief paper considers the advantages and disadvantages of using word processors in the English classroom.

Beach, R. and Bridwell, L.S. (1984). New directions in composition research. New York: The Guilford Press. [C & M]

This book is a collection of research studies representing new directions in composition research that have emerged in the last ten years. The authors define composition research as "the investigation of writing behaviors, cognitive processes during composing, and the ways in which these behaviors and processes interact with the written products and their contexts." Composition researchers are interested in the actual writing production of people of all ages and of all kinds.

Bean, J. (1983). Computerized word-processing as a way to revision. College Composition and Communication, 34, 146 - 146. [C & M]

This brief summary of a Montana State University study shows that the computer can have a positive impact on students' revising habits. Besides relieving them of the burden of frequent manuscript recopying, it was found that students enjoyed working on word processors and consequently spent more time with revisions.

Bencomo, A. A. and Schafer, M. (1984, April/May/June). Remediation & accomodation for clients with learning disabilities [Special issue]. Journal of Rehabilitation, pp. 64 - 67. [CA & LD]

The authors' main purpose is to focus on ways to help learning disabled individuals function competently in the personal, social and vocational aspects of everyday life. They refer to remediation (focuses on changes within a persons abilities) and accomodation (focuses on changes which help a person to work around limitations) as mechanisms for accomplishing this goal. Other chapter areas include: 1) Determining the Need for Remediation, 2) Approaches to Remediation, 3) Acquiring Remediation Services, 4) Determining the Need for Accomodation, 5) Determining What to Accomodate, and the 6) Human Relations Aspects. The authors conclude by saying that working with educators, psychologists, and counselors to remediate or accomodate LD employees is just the beginning and that there is much to be done to help employers create a favorable work environment for these individuals.

Biller, E. F. (1982). Identifying the career maturity of learning disabled college students. (Doctoral dissertation, Southern Illinois University, 1982) Dissertation Abstracts International.

Bieschke, C. L. (1985). Technology trends in special education. T. H. E. Journal, pp. 73 -77. [M]

The author describes current and future trends related to the potential use of microcomputers, telecommunication systems, and communication aids and devices for special education. The primary focus, however, is on the administrative use of electronic technology in special education.

Brechin, C. & Kemp, W. H. (1984, April/May/June). Misconceptions about learning disabilities [Special issue]. Journal of Rehabilitation, 3 - 33. [LD]

Because of the scarcity of information and research regarding the adolescent or adult with learning disabilities, it has been hard for rehabilitation agencies to develop effective and timely services for their LD clients. To outline common misconceptions relating to learning disabilities, the authors administered a survey to 169 professionals in the states of Mississippi and Alabama.

Based on the responses to the survey, they discuss the misconceptions in terms of definition, characteristics, motivation, and include what this means for rehabilitation agencies serving LD adolescents and adults.

Breininger, L. J. & Portch, S. (1983). A visit to professor Cram: Attractive computer learning. College Composition and Communication, 34, 358 - 61. [M & C]

These authors designed a computer program that contains five areas of instructional units: 1) building a vocabulary, 2) punctuation, 3) comma splices and run-on sentences, 4) sentence fragments, and 5) agreement. Three main objectives were followed to develop the program: "to make the learning process enjoyable, to teach basic usage rules, and to familiarize students with independent computerized learning."

Bridwell, L., & Duin, A. (in press). Looking in depth at writers: Computers as writing medium and research tool. In J. Collins & E. Sommers (Eds.), Writing On-Line: Using Computers in the teaching of writing. New York: Boynton/Cook Publishing. [M & C]

Convinced that computer-assisted instruction in writing is not keeping pace with research on writing or with the potential and power of computers, the authors draw on some of the best programs and studies to argue that computer-assisted instruction has failed to achieve miraculous results, and in some cases, the research appears to indicate "that the computer may impose new problems." The authors designed their own computer-integrated writing curriculum, focussing on word processing for the following reasons: "1) computers are, or will be, the means by which our students will produce most of the formal writing they do as their productive careers span into the 21st Century; 2) truly impressive and sophisticated computer-assisted programs for writing are not yet available to serve the diverse contexts for writing in our composition courses, nor are they easily adapted to the range of developmental levels we find among students." Following a brief review of the early history of computer-assisted instruction, they introduce three strands of research projects emerging at the University of Minnesota which examine writers reactions to word processors and the ways that computers might be used to study and teach writing skills. These areas include: "1) studies of experienced writers who learn to use word processing for their writing; 2) studies of college students who learn to use word processing in their college writing classes; and 3) tests of instructional programs designed to complement writing instruction in traditional classrooms."

Bridwell, L. S., Nancarrow, P. R., & Ross, D. (1984). The writing process and the writing machine: Current research on word processors relevant to the teaching of composition. In R. Beach & L. Bridwell (Eds.), New Directions in Composition Research (pp. 381 - 398). New York: The Guilford Press. [M & C]

In their review of relevant literature, the authors have found little research to substantiate the claim that word processing produces significant changes in the writing behavior and the quality of final products, even though there is currently a proliferation of word processors and microcomputers with word processing capabilities on

college campuses and in business and industry. They do provide an overview of research on CAI applications to writing that encompasses three areas: drafting (they refer to an IBM research report and subsequent article by Gould), revising, and editing (most of the discussion in these segments is on the Writer's Workbench package). They also present their own long-range plans to study the composing processes of college undergraduates in order to determine the specific needs that can be addressed with microcomputers functioning as interactive instructional systems and as word processors. Two other lines of inquiry are concerned with ways to design instruction for students in upper-division courses developed for "writing for special purposes", and ways that students and teachers can best use word processors in classroom contexts.

Bridwell, L. S., & Ross, D. (1984). Integrating computers into the writing curriculum; or, buying, begging, and building . In W. Wresch (Eds.), The computer in composition instruction: A writers tool (pp. 107 - 119). Urbana, IL: National Council of Teachers of English.

Brown, D. (1984, April/May/June). Employment considerations for learning disabled adults. [Special issue]. Journal of Rehabilitation, pp. 74 -77. [LD & CA]

The first part of this article regards the placement procedures for learning disabled clients and the complex process of convincing employers to hire learning disabled clients. Continuing along the same line, the author also refers to techniques that help a job counselor to find a good job for each learning disabled client. There are numerous examples to describe situations where learning disabled and/or socially unskilled employees receive reasonable accomodation and techniques that benefit their present employment situation.

Burke, R. L. (1982). CAI sourcebook: Background and procedures for computer assisted instruction in education and industrial training. Englewood Cliffs, N. J. : Prentice Hall.

Burns, H. L. & Culp, G. H. (1980, August). Stimulating invention in English composition through computer-assisted instruction. English Technology, pp. 5 - 18. [M & C]

The authors report on their investigation using computer-assisted instruction to stimulate invention in the English composition classroom. The invention programs were developed to allow for active student involvement and machine heuristic manipulation. Seventy-two students at the University of Texas, Austin volunteered to be part of the study. These subjects enrolled in four different sections of English 306, a course that is designed to improve expository writing skills, and the treatments (three experimental, one control) were randomly assigned to the classes. Sixty-seven students actually completed the treatment that included a pre- and post-test in invention. The researchers found that computer-assisted instruction in invention both increased the number and sophistication of ideas and that "questioning dialogues could help students articulate, refine, and preserve their ideas ... (as well as) ignore content in favor of perspective and still help students begin writing." The authors maintain that another benefit of this study may be the introduction of the computer as a way to increase the reliability and validity of composition research.

Canino, F. (1981). Learned-helplessness theory: Implications for research in learning disabilities. The Journal of Special Education. 15, 471 - 484. [LD]

The authors discuss the implications for research in the achievement of children with learning disabilities within the framework of learned-helplessness theory. They review the origin of academic helplessness with respect to the attributional style of children who experience performance deficits, with specific interests in gender differences, mediating variables, information processing, and strategies of intervention. Research has already established that helpless students have a maladaptive style of attribution; attributing academic failure to an internal, invariant source. The similarities between helpless children and learning disabled students in terms of problem-solving and attention are presented.

Cohen, S. B. & Schwartz, T. A. (1983). The use of microcomputers in teacher training. Journal of Learning Disabilities, 16, 300 - 302.

Collier, R. M. (1981). The influence of computer-based text editors on the revision strategies of inexperienced writers. Paper presented at the Annual Meeting of the Pacific Northwest Conference on English in the Two-Year College, Calgary, Canada. (Eric Document Reproduction Service No. 211 998). [M & C]

This is a study to determine the effect of computer-based text editing on the revision strategies of inexperienced writers. Participants were four subjects selected from an introductory college composition course at Mount Royal College in Calgary, Alberta. Each subject gave the instructor an original, handwritten copy of an assigned essay with the topic, purpose, audience, and content defined. The subjects then revised their essays using a text editing keyboard. The author used verbal protocols and videotapes to analyze their revision strategies. He found that the use of the computer-based text editor increased the number and complexity of revision operations and also encouraged greater manipulation of material at the word and phrase/clause domains. It did not appear to affect the overall quality of the essays. The subject with the strongest writing skills excelled at the use of the computer for revision, while the subject with the weakest writing skills preferred more conventional methods of revision.

Collier, R. M. (1983). The word processor and revision strategies. College Composition and Communication, 34, 149 - 155. [M & C]

The author summarizes his earlier work (1981) and makes two suggestions for improvement in the area of word processing and the teaching of writing: 1) Students will have to become sufficiently "computer literate" to make composing and revising on a word processor a practical alternative to writing by hand. 2) Electronic engineers will have to redesign the word processor so that it demonstrably supports and enhances the writing process.

Cox, D. & Berger, C. F. (1983). Microcomputers are motivating. In A. P. Mizell & T. H. Beebe (Eds.) Computer Education (pp. 32 - 33). Lexington, MA: Ginn Custom Publishing.

Crimando, W. (1984, April/May/June). A review of placement-related issues for clients with learning disabilities [Special Issue]. Journal of Rehabilitation, pp. 78 - 81. [LD & CA]

Though there exists a paucity of information regarding learning disabled adults, the author presents a review of the important issues related to the placement and job development of these individuals. The author uses a model, drawn up by the Second Institute on Rehabilitation Issues (1978), from which to create the research base and review rehabilitation and job placement for persons with disabilities. Besides this literature review, the following topic areas are also included: 1) job readiness, job seeking, and job retention skills, 2) job selection, 3) job training, 4) job analysis, job development, and selective placement, and 5) job restructuring and modification.

Cronnell, B. & Humes, A. (1981, March). Using microcomputers for composition instruction (Contract No. 400-80-0108). National Institute of Education (ED), Washington, D. C. (ERIC Document Reproduction Service No. ED 203 872). [M & C]

This report provides an elementary introduction to the use of microcomputers and word processors in the instruction of composition, especially revision of writing. The authors suggest the instructional use of word processing to help teach students how to use sentence combining and how to generate and arrange content for a specific composing task.

Cruickshank, W. (1981). Concepts in Learning Disabilities: Selected Writings (Vol. 2). Syracruse, NY: Syracruse University Press. [LD]

Cruickshank, W. M., & Lerner, J. W. (1982). Coming of Age: The best of ACLD (Vol 3). Syracruse, NY: Syracuse University Press. [LD & C]

This book is a selection of articles drawn from the 18th International Conference of the Association for Children and Adults with Learning Disabilities. General topic areas include: Pressing Current Issues, Family and Social Systems, Development of Mental Processing Abilities, New Strategies for Teaching Reading and, Written Language Problems. Several articles that are of particular interest to this bibliography include: "Written Language Disorders in Learning Disabled Students: A Preliminary Report" by Susan A. Vogel and Mary Ross Moran attempts to answer the following questions: 1) Do LD college students differ significantly from entering freshmen in their overall writing

ability and in their organization? and 2) Do LD students differ significantly from their non-disabled peers in number and correctness of punctuation marks and capitalization, in correctnes of spelling, sentence structure and usage, in syntactic complexity, and in word selection? Another pertinent article is "Write Right or Left: A Practical Approach to Handwriting" by Rosa A. Hagin and Archie A. Silver. This article is concerned with Write Right or Left, a simplified approach to teaching handwriting designed to help individuals (primarily learning disabled) who normally have difficulty learning conventional handwriting patterns. "It is based on the verticle downstroke, rather than the diagonal slant necessary to cursive writing. It builds on motor patterns of manuscript letters taught in early years, but adds connecting strokes that permit faster writing than is possible with the separated letters."

Cruickshank, W. M. , Morse, W. C. , & Johns, J. S. (1980). Learning disabilities: The struggle from adolescence toward adulthood. Syracruse, New York: Syracruse University Press. [LD]

This book is concerned with discussing the nature and needs of the learning disabled adolescent. Part one talks about the adolescent years and what that age period might mean for the learning disabled adolescent. Part two shares the experiences and observations of several learning disabled adolescents (now adults). Part three turns to the junior and senior high educators to capture their perspectives on teaching LD students; to ask them questions about devising educational regimens and individualizing instruction to meet the needs of youth with problems associated with learning disabilities.

Cruickshank, W. M., & Silver, A. A. (1981). Bridges to tomorrow: The best of ACLD (Vol. 2). Syracruse, NY: Syracruse University Press. [LD & CA & C]

This book is comprised of a selection of papers that were presented at the 17th International Conference of the Association for Children with Learning Disabilities. The papers are presented in three general topic areas Adolescence, College Age, and Adulthood; Assessment and Evaluation Practices; and Background in Education. Several examples of the papers include: Adolescent Learning Disabilities: Beyond Phonics, Punctuation, and Popularity; Persistent

Problems and Concerns of Young Adults; Social Interaction Deficits in Learning Disabled Adolescents; Current Assessment and Decision-Making Practices; Bias in the Making of Placement Decisions; and The Prediction of Reading Failure: A Review and Critique.

Daiute, C. A. (1983). The computer as stylus and audience. College Composition and Communication, 34,134 -145. [C & M]

The author discusses physical and psychological constraints that burden writers as they compose and revise. One such constraint involves the limitation of short-term memory. Another difficulty is that the writer must take the readers point of view, and in so doing must be objective about his or her own writing, evaluate it and find mistakes. The role of the computer text editor is explained in overcoming these types of constraints.

Daiute, C. (1985). Writing and computers. Reading, MA: Addison - Wesley Publishing Co. [M & C]

Drawing on the work of cognitive researchers, writing researchers, and educators, the author addresses such questions as: "What writing activities are better done with computer(s) than with pens? Are the benefits of using the computer for writing and writing instruction worth the complication and expense? How does the computer affect writing quality? How does the computer affect human thought and action?" Part I of this book offers a theory of writing instruction, highlighting the social, physical, and cognitive aspects of the writing process. "Part II describes computer writing tools as they apply to the writing process. Part III discusses specific applications of computer programs for writers of different ages. Part IV provides information about evaluating and selecting computer writing tools and designing learning environments where students can work." This book also includes a bibliography, directory of resources, and a glossary of terms.

Degnan, S. C. & Hummel, J. W. (1985, February). Word processing and special education students: Worth the effort. T. H. E. Journal, pp. 80 - 82. [M & C]

The authors found that, for a number of reasons, many special

education teachers are reluctant to use word processors in their classrooms, even though special population students, who typically spend an extensive amount of time writing or typing a single paragraph of information, can benefit from the time-saving features of editing and printing text using a word processor. Attempting to increase teachers' confidence levels, the authors developed teacher inservice sessions along the following rationale:1) word processing must be understood as a time- and labor-saving tool; 2) the efforts students invest in writing longhand obscure the purpose of their task; 3) student motivation is increased when they use a word processor. In-service participants also had hands-on experience using Bank Street, Magic Window, Homeword, and Applewriter in order to learn the characteristics of specific word processing programs.

Dexter, B. L. (no date). Helping learning disabled students prepare for college. Journal of Learning Disabilities, pp. 344 - 346. [LD]

Reporting that the need for direct services for postsecondary LD students is increasing, the author makes several recommendations to help college-bound LD students make the transition from high school to college easier. It is important that they first investigate the possible resources that are available on campus and to initiate early contact with them. Such individuals might include: the college dean, the student's advisor, class instructors, the special education department on campus, and perhaps the reading program on campus. The author also suggests that the student develop and practice appropriate study skills such as the following: organization of time, setting priorities, maintaining a good study environment, recording lectures, underlining, etc.

Elias, R. (1984, February). Will computers liberate the comp drudge? Paper presented at the Spring Conference of Delaware Valley Writing Council and Villanova University's English Department, Villanova, PA. (Eric Document Reproduction Service No. 224 954) [M & C]

The computer can improve writing instruction only if it is integrated into a systematic pedagogy that distinguishes between writing behavior and higher order cognitive skills. Underlying the present concern is the behavioristic assumption that promoting a

certain writing behavior can provoke thought. Unfortunately, while computers can change writing behavior--causing students to revise more, for example--they cannot change student writing. Teachers may contribute to problems with using computers or word processors in writing when they quickly criticize technical problems or are unable to adjust their teaching to technical innovations. Educators need to set limits on how useful they want computers to become in instruction. Invention, for example, should be left to pencil and paper both because most computer programs are only mimicking classroom pedagogy and because computerized invention programs do not allow for serendipity. If the computer is left to help with more mechanical writing problems, instructors will be freed to help students develop higher level cognitive skills.

Evans, C. (1983). An invitation to the (near) future: How computers will contribute to education in the next two decades. In A. P. Mizell & T. H. Beebe (Eds.), Computer Education (pp. 44 - 46). Lexington, MA: Ginn Custom Publishing.

Fritzler, M. (1983). A composition program looks at computers: A tentative evaluation of the software and hardware appropriate to a word processor assisted writing program. [M & C]

The author addresses the chief needs of students and teachers in college writing classes and compares hardware and software systems that meet those particular needs.

Flowers, L., & Hayes, J. R. (1980, February). The Cognition of Discovery: Defining a Rhetorical Problem. College Composition and Communication, pp. 21 - 32.

Gallagher, B. (1985). Microcomputers and word processing programs. (Research Monograph Series Report No. 9) New York: The City University of New York, Instructional Resource Center. [M & C & LD]

This manuscript concentrates on the use of word processing programs in higher education and on the effects that word processing may have on writing, on the notion of "text", and on the teaching of

writing (and other subjects) over the next few decades. In chapter 2 the author summarizes one part of LaGuardia's Microcomputer/Writing Program, a project that was funded through a New York State Vocational "implementation grant", to teach writing to learning disabled students in vocational education majors, using word processing software on microcomputer facilities provided by the college. Word Processing and Collaborative Learning; Teaching the Word Processor as a Writing Tool; Success Factors, Special Techniques, Real and Potential Problems of Word Processing in the Writing Classroom; and Computer Programs for Writing Programs are other topics that are covered within this chapter. In chapter 3 the author discusses issues related to general faculty use of word processing in the writing class, and in chapter 4 he provides an extensive evaluation of microcomputer word processing programs that are written or adapted for use on the IBM personal computer. The focus of chapter 5 is on the social, educational, epistemological, and ontological issues related to word processing in the writing classroom.

Gallagher, B. (1985). Computers, word processing, and the teaching of writing. Research in Word Processing Newsletter,3(4), 1 - 5. [M & C]

The author comments on the implications of the computer revolution in education, predicting a coming together of both the teaching and tutoring functions in composition instruction. He asserts that while the computer can structure rote instructional tasks to fit individual capabilities, the teacher will be amply involved with one-to-one teaching responsibilities. Also presented are several successful instructional techniques that can help utilize word processing as an educational aid to writing. These suggestions include: pairing students, using peer-critique, implementing "invisible writing", journal writing on the word processor, developing group narratives, and using prose analysis programs such as Writers Workbench and Grammatik. Some of the most significant problems that might arise from using word processing in the classroom, are mentioned as follows: Students may become machine dependent; the characteristics of the apparatus (the screen is only eighty characters across and twenty-four lines down) can be limiting, students may develop "smokescreen revision" (the nice appearance of the text may cover up the flaws in meaning), and time for practice can often be inadequate.

Gerrard, L. (1981). Using a computerized text-editor in freshman composition, pp. 1 - 12. (Eric Document Reproduction Service No. 227 512). [M & C]

Students in freshmen composition classes at the University of California, Los Angeles, participated in an experiment to determine the usefulness of a computerized text-editor (Wylbur) to help with writing revision. The author found several stages of the process cumbersome and frustrating, and provides the following suggestions on the basis of her experience: 1) develop a shortened learners guide, furnished with an index and glossary, 2) instruction in word processing should take place at the terminal (or at the word processor), 3) provide students with ample warm-up exercises, and 4) tutors or assistants should be trained and available for help when questions arise. Students' responses to a questionnaire about their experiences revealed: 1) too much extra time was required to use the system (Wylbur). (most students felt the system was manageable), 3) most students complained of long lines to wait for access to the terminal, 4) the process for learning how to use the system was often frustrating, 5) the students preferred Wylbur to a typewriter and found revision easier and faster, 6) most practiced only simple instead of wholesale revisions, 7) time limits/expense discouraged full scale revision, and 8) poor typists and poor proofreaders benefited from the availability of easy mechanical revision and a fresh view of the text.

Gillingham, R. G. (1984). Teaching sentence structure by microcomputer. In G. Akst (Ed.) Microcomputers and Basic Skills in College (pp. 43 - 45). New York: The City University of New York, Instructional Resource Center. [M & C]

This brief paper discusses four microcomputer exercises, developed by the author, that can help students learn the elementary concepts of sentence structure and encourage students to apply the syntactical concepts in a formalized act of editing.

Giordano, G. (1984). Teaching writing to learning disabled students. Rockville, Maryland: Aspen Systems Corporation. [LD]

This book is intended to be used as a resource for educators,

clinicians and therapists. It provides a thorough discussion of diagnosis and remediation of learning disabilities, and includes forms and planning aids as well as a complete diagnostic battery. This book also includes lessons that range from simple skills such as letter formation to more complex skills such as outlining, paraphrasing and report writing. There is a topically arranged bibliography contained in the appendix. This is a very good resource for any professional working with learning disabled students.

Goldenberg, E. P. (1979). Special technology for special children. Baltimore, MD: University Park Press. [M]

The author's main conviction is that emerging technologies carry the promise of one day eradicating the handicaps inherent in cerebral palsy, deafness, and autism, just as eye glasses have served to correct vision problems that disable many individuals in our society. The author begins with the history, philosophy, psychology, and economics behind using computer technology to aid communication for handicapped individuals in terms that enable professionals in the computer field and individuals who work with handicapped to come together on some common ground. There are many examples of handicapping situations (including some description of the characteristics of each problem and discussion of the problem in terms of cognitive developmental theories) as well as technological interventions that are suited for each particular handicap.

Gray, R. (no date). Serving adults with learning disabilities: Some considerations. Journal of Developmental & Remedial Education, 4(2), 3 - 33. [LD]

The author develops the following concepts: 1) Educators have experienced difficulty identifying a clear, practical and employable definition of learning disabilities. 2) In reviewing the recent history of the LD movement, it is possible that the growth of educational programs for learning disabled students has emanated from a specific social class. 3) There are few panacean procedures that insure success in the instruction on LD students. 4) There is little agreement about the basic components in a secondary school program for LD adolescents. 5) The author summarizes stating that the need for a practical, systematic procedure for planning intensive short-term, goal centered programs at

the postsecondary level are crucial for LD adult students.

Gregg, N. (1983). College learning disabled writer: Error patterns and instructional alternatives. Journal of Learning Disabilities,16, 334 -338. [LD & C]

Research indicates that LD college students may require different instructional objectives from those needed by college basic writers who have a difficulty with the composing process or have had limited instruction. This article focusses on two points critical to educators working with college writers: the discussion of the error patterns of college learning disabled, normal, and basic writers across different writing tasks and instructional approaches that have been successful in improving the written language skills of learning disabled writers.

Hansen, C. (1984). Controlling the computer: Or the curriculum comes first. Paper presented at the Conference on College Composition and Communication in New York.

Harvey, R. G. (1983, May). A survey of the research on the composing processes of student writers. (Doctoral Dissertation: Abstracts International, at Illinois State University). [M & C]

This dissertation summarizes the research-to-date (May, 1983) that concerns the composing process of student writers. Also included in the article is a review of the methods that researchers use to study this process, such as videotaping, direct observation, introspection, composing aloud, and others. The author derives the following conclusions based on the research summary: 1) The time allowed for writing is generally inadequate in high schools. 2) Students are not often required to write extended pieces of discourse in high schools. 3) Most student writing is done in the transactional mode. 4) Teachers as examiners are usually the only audiences for student writing. 5) Books of model essays and many composition textbooks are of questionable value. 6) The composing process is recursive. The prewrite, write, revise model of the composing process is inadequate in describing writing behavior. 7) Writing is a powerful way of learning. 8) Modes of discourse affect the composing process. Students write sentences which are most syntactically complex when composing the argumentative mode. 9) Good student writers spend more time

planning, writing, pausing, rescanning, and revising than do poor writers. Good student writers also take more satisfaction in writing than do poor writers.

Hennings, D. G. (1983, October). Words processed here - write with your computer. Phi Delta Kappan, pp.122-124. [M & C]

The major point of this article is to show that the benefits of using word processors far outweigh the problems.

Hershenson, D. B. (1984, April/May/June). Vocational counseling with learning disabled adults [Special issue]. Journal of Rehabilitation, pp. 40 - 4. [LD & CA]

The authors discuss a model of vocational development that has been shown to be applicable to both learning disabled and non learning disabled individuals. The model that is presented consists of three domains: 1) the work personality, including the worker's self-concept and motivation to work, 2) work competences, the skills that are relevant to the work setting (promptness, neatness, reliability), and 3) formulation of appropriate work goals. The author also describes typical LD performance deficits, some of which include: 1) performance errors resulting from perceptual problems, 2) inefficient learning and performing of relevant skills, 3) clumsiness and accident proneness, 4) difficulties in processing written, spoken, mathematical, and/or spatial materials, 5) difficulties in sequencing tasks, 6) problems with time sense and meeting deadlines, 7) problems in coping in noisy and cluttered environment, 8) problems with keeping attention on tasks with recall, 9) inadequate social skills, and 10) inability to "read" the reactions of other people. The author also reviews special recommendations and procedures for carrying out the vocational counseling process and suggests that the vocational counselor must focus on individual differences and adjust techniques of assessment and intervention to the capacities and needs of the individual learning disabled client.

Hinds, K. (1985, January). Dyslexia. Brown Alumni Monthly, pp. 25 - 31. [LD]

This article is a series of interviews with dyslexic students

attending Brown University.

Hubbard, F. A. (1984). Reviews: Writing and word processing. College English, 46, 128 - 133. [M & C]

This is a short, succinct review of the following books on word processing: Writing in the Computer Age: Word Processing skills for Every Writer by Andrew Fluegelman and Jeremy Joan Hewes, The Word Processing Book: A Short Course in Computer Literacy by Peter McWilliams, and Writing with a Word Processor by William Zinsser.

Huebschmann, R. E. (1983). Perceived locus of control among learning disabled young adults. (Doctoral dissertation, Southern Illinois University,1983). Dissertation Abstracts International.

Hummel, J. (1985). Courseware review: Writing a Narative. Journal of Learning Disabilities, 18(2), 119 - 120. [M & C]

The author reviews the Writing a Narative program that is designed to assist in the process of creative writing. The author says that the program "is best described as a utility program to aid in the generation of ideas, and as a tutorial on perspectives for authoring."

Hummel, J. (1985). Word processing and word processing related software for the learning disabled. Journal of Learning Disabilities, 18 (9). [LD & C & M]

This article presents preliminary research results on learning disabled students' use of word processing in composition classes. The author highlights recent studies by MacArthur, 1985; Russell, 1985; Morocco & Newman, 1985; Sommers, 1985; and others, that will help to better define the research problem and provide directions for integrating word processing into the writing curriculum. The rest of the article reviews and discusses the issues related to the use of two kinds of educational software, spelling checker software and writing activities software (SENSIBLE SPELLER and QUILL, respectively).

Hummel, J. W. & Balcom, F. W. (1984) . Microcomputers: Not just a place for practice. Journal of Learning Disabilities, 17, 432 - 434. [LD & M]

This article explores the ways in which learning disabled students can use data base management and word processing programs to make storing, using, correcting, sorting, and updating information easier. These programs involve the student as an active planner; inputing data that is utilized by the program to facilitate some end-product desired by the student.

Hunter, L. (1983, June). Basic writers and the computer. (Eric Document Reproduction Service No. 237 975).

Hursh, N.C. (1984). Vocational evaluation of learning disabled adults [Special issue]. Journal of Rehabilitation, pp. 45 - 63. [LD & CA]

"Current rehabilitation regulations recognize specific learning disabilities as meeting the first eligibility criterion for vocational rehabilitation. This article describes a vocational evaluation process and (the) use of specific tools with learning disabled adults. Recommendations are made for research in evaluation outcomes, development of specific evaluation tools, and training for rehabilitation professionals."

Hushner, M & Letzer, R. (1984). Sentence logic. In G. Akst (Ed.), Microcomputers and Basic Skills in College (43 - 45). New York: The City University of New York, Instructional Resource Center. [M & C]

This short report is about Sentence Logic, a program for the Apple computer, developed by the authors, that is designed to create a "halfway house" between computer programs that deal with individual lexical or syntactic units (words, phrases, or sentences) and original writing with a word processor.

Johnston, C. L. (1984). The learning disabled adolescent and young adult: An overview and critique of current practices. Journal of Learning Disabilities, 17, 386 - 391. [LD]

The author describes the educational and psychological characteristics of adolescents and young adults with learning disabilities, the specific assessment practices which have been utilized

to evaluate LD young adults, the current educational programs available to service this population, and empirical research which has been conducted on LD adolescents and young adults.

Kane, J. H. (1983, April). Computers for composing. Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, CA. (Eric Document Reproduction Service No. 230 978). [M & C]

This study investigated how five eighth grade students, with a wide range of writing skills, used a microcomputer-based word processing system for composing. Data was collected over the span of 10 class sessions, each 45 minutes in length. The results indicate that initially students assimilated writing with the computer to their own general mode of composition. Most of the writing revisions were corrections of spelling or punctuation. The author did find some evidence to conclude that the microcomputer helped to focus attention on the overall organization of the text, provided opportunities for practicing revision procedures, and created a context for experimenting with alternative texts.

Kerchner, L. B. & Kistinger, B. J. (1984). Language processing/word processing: Written expression, computers and learning disabled students. Learning Disabilities Quarterly, 7, 329 - 335. [LD & M & C]

The investigators combine the "process" approach to teaching composition, a method where students are allowed to learn writing (including the rules of grammar, punctuation, and spelling) naturally and according to their own needs, with word processing integrated to enhance the LD student's ability to read and write. The experimental sequence included a prewriting conference, composition at the keyboard, printing a draft, editing conferences, editing at the keyboard, printing a final copy, illustrating the composition, and a chance to present the final composition to an attentive audience. The subjects were drawn from the 4th, 5th, and 6th grades and consisted of an experimental group (n=18)--LD students using the process approach to writing on the computer, and a control group (n=19)--LD students in two other resource specialist classrooms in the same school district. The authors' findings suggest that language skills on the computer

transfer to pencil and paper tasks, while gains in reading scores remain consistent with those achieved with more conventional reading programs.

Kiefer, K. E. & Smith, C. R. (1983). Textual analysis with computers: Tests of Bell Laboratories computer software. Research in the Teaching of English, 17, 201 - 214. [M & C]

While teaching at Colorado State University, these authors investigated the ways that freshmen college students use the computer (particularly word processing equipment and Bell Laboratory's Program, Writers Workbench) to analyze and edit their own writing. Students who enrolled in the experimental course, Freshmen College Composition, were able to analyze their own text using the Writers Workbench Programs, DICTION, SUGGEST, STYLE, and SPELL, before handing it in to the class instructors. These programs are designed to teach editing skills with less prompting from instructors, and help students avoid common problems in diction, locate choppy sentences or passive constructions, and suggest possible spelling and proofreading errors. The control group consisted of college students who enrolled in the Freshmen College Composition course but did not use the Writers Workbench Programs to analyze or edit their own text.

Because, as the authors suggest, "textual analysis with computers intrigues writers and speeds (the) learning of editing skills by offering immediate, reliable, and consistent attention to surface features of their prose", students attitudes toward writing also increased significantly. The authors did not find any significant differences in writing fluency between the control and experimental groups, but did find that students who were in the experimental group were able to identify significantly more errors in text, than those in the control sections.

Kotler, L. & Anandam, K. (1983). A partnership of teacher and computer in teaching writing. College Composition and Communication, 34, 361 - 367. [M & C]

This article reports on the Miami-Dade Community College Project developed to "support teachers in their efforts to give students individualized and detailed evaluations of their writing." The student does not interact with a microcomputer or sit at a screen. Instead,

students receive personalized letters that discuss their writing problems, according to the teachers' wishes.

Kramer, S. (no date). Word processing in a Logo environment. Electronic Learning, pp. 70. [M & C]

A brief description of the author's experience using the principles of Logo to teach her students to write. Some of the teaching techniques recommended include: 1) create a safe learning environment, 2) provide stucture as needed, 3) treat errors as new ideas, and 4) invite students to share their work.

Kreiter-Kurylo, C. (1983). Computers and Composition, The Writing Instructor, 2 (4)175 - 181. [M & C]

The author discusses the extent to which the teacher of English can accomplish specific educational goals using the computer in a classroom setting. She argues that besides providing a way to individualize learning and serving as a time-saving device, computers in the classroom can function as a personal tutor, interacting with and enabling students to become active participants in their own educational development. The use of the computer in the classroom also frees composition teachers to develop their writing courses or to spend time working with students individually. The author reviews other programs that have been developed in this area, with respect to the specific areas of grammar/syntactical skills (Susan Wittig, 1971), rhetorical invention (Hugh Burns, 1980), and composition analysis (Miami-Dade Community College RSVP: Feedback Program for Individualized Analysis of Students' Writing, 1979). [M & C]

Kussat, R. G. (1984). Adapting a vocabulary development program for use on the microcomputer. In G. Akst (Ed.), Microcomputers and Basic Skills in College (pp. 49 - 50). New York: The City University of New York, Instructional Resource Center. [M & C]

This brief paper describes how Wordcraft, a commercially available audiovisual vocabulary development program, was adapted for use on the microcomputer at Bronx Community College.

Lenda, R. K. (1984). Creating courseware. New York: Harper & Row.

Langendoen, D. T. (1984). Word processing in freshmen composition: One teacher's experience. In G. Akst (Ed.), Microcomputers and Basic Skills in College (30 - 31). New York: The City University of New York, Instructional Resource Center.

Larsen, R. B. (1984, December). The impact of computers on composition: A polemic. Educational Technology, pp. 22 - 25. [M & C]

A short essay of persuasion attempting to do bring instructors up to date on relevant microcomputer technology inside and outside of the profession, and to comment generally on some of the research concerning the impact of this technology in the classroom.

Lawlor, J. (Ed.). (1982). Computers in composition instruction. Los Alamitos, CA: SWRL Educational Research and Development. [M & C]

This book includes five papers that were presented at a conference sponsored by the Southwest Regional Laboratory for Educational Reseach and Development to examine the role of computers in composition. The authors and titles of these articles are: Robert Shostak, "Computer-Assisted Composition Instruction: The State of the Art", Hugh Burns, "Computer-Assisted Prewriting Activities: Harmonics for Invention", Earl Woodruff, "Computers and the Composing Process: An Examination of Computer-Writer Interaction", Ann Lathrop, "Courseware Selection", Alfred Bork, "Reactions". In the appendix, the editor presents some of the problems that might occur when developing programs for computer-based writing instruction.

Leahy, E. K. & Peretz, A. (1984). Micro-CAI for basic skills: A tool and a new setting. In G. Akst (Ed.), Microcomputers and Basic Skills in College (pp. 13 - 16). New York: The City University of New York, Instructional Resource Center. [M & C]

A concise overview of the authors' experience launching the Bronx Community College Learning Center, a computer classroom that was developed to serve a target group of adult basic skills students (also referred to as "underprepared" students).

Lesnick, H. (1984, May). Identifying and instructing "SLD" adults. Resource: Publication of the Instructional Resource Center, p. 12 - 15. [LD]

SLD (Specific Language Disabled) students generally elicit a heterogeneous group of behaviors often characterized by inadequate perception of the printed word, inability to distinguish phonetic and graphemic elements, poor sound-symbol correspondence, and faulty sequence processing. The author believes that these behaviors are influenced by extrinsic factors, such as inadequate developmental and educational experiences, rather than intrinsic factors, which are traditionally associated with neurological anomalies. Several individuals at the Veterans' Readiness Institute of Bronx College have developed an SLD group screening test and designed a multi-sensory, multi-modal learning program for classroom use that enables instructors to identify what was unlearned or underlearned by the student, and to teach the material so that the student overlearns it to the point that processing becomes automatic.

Littlefield, P. (1983, September). Teaching writing with a word processor. Academic Therapy, 19(1), 25 - 29. [M & C]

A testimonial about the author's personal experience teaching writing to upper-elementary educationally-handicapped students using the word processor as a motivating device to encourage students to edit and revise as they write.

Loxterman, A. S. (1978, April). College composition and the invisible handicap. Paper presented at the Annual Meeting of the Conference on College Composition and Communication, Denver, CO. (Eric Document Reproduction Service No. ED 168 016). [LD & M & C]

This report is a summary of the author's attempt to improve the writing skills of a student in his freshmen composition class at the University of Richmond. While participating in the class, the student was diagnosed as having a learning disability. Together, the author and a learning disabilities specialist developed an intervention program for the student, using Process One, A College Writing Program (developed

by George R. Bramer and Dorothy Sedley, Columbus Ohio: Charles E. Merrill Pub. Co., 1977) to supplement the current freshman English curriculum. As a result of this experience, the author establishes some guidelines for individuals who work with learning disabled students: 1) Establish and publicize some system of referral and diagnosis. 2) Urge instructors of writing to support this type of referral system. 3) Establish uniform standards throughout all departments offering waivers for specific learning disabilities. 4) Provide a required program of special help. 5) Include audiovisual components in the supplementary writing program and use written exercises and objective tests to test for mastery of principles. 6) Give students career guidance and personal counseling throughout their college years.

Lynd, C. (1984). Guide to software for special education. Columbus, OH: LINC Resources, Inc. [M & LD]

This article is for professionals who find it necessary to identify and recommend specific programs for the education of handicapped learners. Besides providing an overview of the available programs and resources, it also includes: a list of publications that specialize in reviewing courseware, periodicals that focus on special education software, and a directory of all the companies that are referred to throughout the report.

Mann, L. Goodman, L., Wiederholt, J. L. (1978). Teaching the learning disabled adolescent. Boston, MA: Houghton Mifflin Co. [LD & C & CA]

This book, edited by the three authors cited above, is a collection of articles written by specialists to introduce the topic of secondary learning disabilities. The contributing authors include: Virginia Brown, John F. Cawley, Donald Deschler, Patricia Gillespie, Donald Hammill, Paul Irvine, Therese Laurie, Janet Lerner, Rita Silverman, Merrill Sitko, James Ysseldyke, Naomi Zigmond. These articles cover a range of topics, including some of the following: Learning Disabilities: A Definition, Personality-Social Factors, Curriculum and Methodology Resources, Assessment of Language Disabilities, Reading Problems, Instructional Strategies in Reading for the Learning Disabled, Educational Programming: A Survey of Current Practice, Academic Versus Vocational

Priorities, A Model Program for Career Preparation.

Mann, L. (1985). Divagations [Editorial]. The Journal of Special Education, 19(1), 2 - 3 . [LD & M]

The author's main contention is that a word processor functions as a facilitator, or in the author's own words, as a "prosthesis" for most people. The author argues that because the word processor serves a prosthetic rather than a remedial or corrective purpose, it is of particular importance for handicapped or learning disabled children, given that most of the triumphs in special education are achieved through prosthetic rather than remedial means.

Marcus, S. (1983, Summer). Real-time gadgets with feedback: Special effects in computer-assisted instruction. The Writing Instructor,2, 157-163. [M & C]

The author explores the unique qualities and characteristics of computer-assisted instruction with respect to the new tools and techniques it provides to writers. He refers to invisible writing (or freewriting, a technique used to develop fluency at the prewriting stage of the composing process), and suggests that word processors can provide a special environment for writing of this nature. He discusses several exercizes that provide students with opportunities for practicing cursor control and for increasing coherence and unity within paragraphs. He refers to computer programs that help students in problem solving activities (such as Helen Schwartz's, SEEN and Bill Wresch's, Essay Writer) as well as programs that are used for revision and editing.

Marcus, S. & Blau, S. (1983, April). Not seeing is relieving: Invisible writing with computers. Educational Technology, pp. 12 - 1. [M & C]

The first section of this article describes the experimenters' initial explorations with computer-assisted invisible writing (free writing with a blank page) done with college students enrolled in freshman English classes. The second part of this article concerns the effects word processing can have on the composing process.

McAllister, C. (1984). Visual aid for the writing teacher. In G. Akst (Ed.), Microcomputers and Basic Skills in College (pp. 27 - 29). New York: The City University of New York, Instructional Resource Center. [M & C]

This short article suggests that the word processor can replace the only visual aids that have traditionally been used in the composition classroom, the blackboard and the overhead projector, to efficiently and effectively display students' work or writing samples for class discussion.

McKenzie, J. (1984, September). Accordian writing--expository composition with the word processor. English Journal, pp. 56 - 58.

McWilliams, P. A. (1982). The word processing book: A short course in computer literacy. Los Angeles, CA: Prelude Press. [M]

This is intended to serve as an introductory buying guide for the microcomputer novice, the individual who has little or no knowledge of the personal computer business.

McWilliams, P. (no date). Personal Computers and the Disabled.

Miller, S. A. (1981). A crisis in appropriate education: The dearth of data on programs for secondary handicapped adolescents. The Journal of Special Education, 15, 351 - 368.

Miller, T. L., &Schmidt, C. (Eds.), Learning disabilities: Systemizing teaching and service delivery. Rockville, MD: An Aspen Publication.

Mizell, A. P. , & Beebe, T. H. (1983). Computer Education: Book of readings. Lexington, MA: Ginn Custom Publishing. [M]

This collection of articles was put together for several graduate classes in computer literacy at Nova University, The Center for Advancement of Education in Fort Lauderdale, Florida. The topic areas are: Computers in Education, Microcomputer Hardware, Computer Languages, Software Design and Evaluation, The Impact of Microcomputers. These articles are drawn from professionals with personal experience using the microcomputer for educational purposes.

This book also contains a microcomputer glossary by Fred Kellisch. [M]

Moran, M. R. (1981). A comparison of formal features of written language of learning disabled, low achieving and achieving secondary students. (Research Report No. 34). Lawrence, KS: The University of Kansas, Institute for Research in Learning Disabilities. [LD & C]

The researchers compare the written language characteristics of learning disabled (n=26), low achieving (n=26), and achieving students (n=26) in grades 7 - 10, using paragraph-writing and topic-sentence tasks. The experimenters found that only spelling discriminated between the LD and low achieving groups and that the achieving group scored significantly higher than the LD group in spelling, mechanics, conventions, and mean morphemes per T-unit. Because LD students did indicate a flexibility of sentence types and word types, the authors argue that there is a need for measurement of more substantive features of written expression.

Nancarrow, P. R. (1982, December). Integrating word processors into a freshman composition curriculum. Paper presented at the Annual Meeting of the Modern Language Association of America, Los Angeles, CA. (Eric Document Reproduction Service No. 235 493). [M & C]

The author provides a working model for a freshman writing course using word processors. She begins by discussing logistics of the writing lab itself: the atmosphere and environment, the individual writers' needs, the consultants, and the assignment of working hours. She presents advantages and disadvantages of two alternative ways to structure a word processing writing class: to teach the course specifically as a word processing writing course, or to offer word processing options to students on a volunteer basis, either in substitution for some other activity or as extra credit. She also argues that freshman writers should not be asked to learn word processing in a quick demonstration at the beginning of the quarter as there is simply too much to absorb and synthesize in a freshman writing course. Instead, she designed weekly exercises to demonstrate how word processing functions can be applied to solve typical writing problems. Several exercises are discussed in the text and presented in the

appendix of the manuscript, including: lessons on prewriting and free association, sentence combining, and complex writing problems. Because freshman writers are "generally less experienced problem solvers than upper classmen, have not had as much exposure to computers, and have barely developed writing habits, they usually need greater supervision in using the machines, a more controlled exposure to the various word processing options, and clearer connections made between the word processor's capabilities for changing text and the demands of the writing process itself."

Nancarrow, P. R., Ross, D., & Bridwell, L. (1984). Word Processors and the writing process: An annotated bibliography. London: Greenwood Press. [M & C]

A comprehensive annotated bibliography providing a listing and critique of major resources and references regarding the ways computers can help writers to learn the art and craft of writing. Also included are index terms, listed below the annotations, to help guide the reader to specific areas or topics. They have provided a directory of relevant journals and a glossary of "pertinent generic terms, trade names and acronyms", and have incorporated "old" articles, those published in 1975 or before, to cover some of the history in this new field. There are references on spelling checkers, readability programs, syntactic programs, and pattern practice packages, as they "see them as peripheral to the needs of college students who are learning the more complex skills of writing". The authors do not present a comprehensive survey of the hardware or software, except for developments that may represent new possibilities for writers or may suggest new areas of research.

Nathan, J. (1985, June). The myth of the all-powerful machine. Computer User, pp. 16 - 17. [M & C]

This is an article written for parents and educators, describing current research about computers and learning. The author concludes: "1. People can do some things better than computers. 2. Computers will be more interesting and useful to some students than others. 3. Taking a course about computing does not necessarily mean a student will learn much about computing. 4. Some people are intimidated by complex machines. Unless steps are taken to insure that the limitations as well

as the capabilities of machines are clear, some people will blame themselves for mechanical mistakes. 5. Word processing can dramatically improve both students' attitude toward and ability to write. 6. Sophisticated uses of computers will enable handicapped people to gain skills and assume responsibilities previously thought impossible for them. 7. If a person's initial experiences with computers are positive, the person is much more likely to want to learn more about and with the machine. 8. Changes will have to occur within the teaching profession to attract and retain people making sophisticated creative use of computers. 9. The physical setting of rooms where computers are used will have a significant impact on student performance and comfort".

Nathan, J. (1985) Micromyths. Minneapolis, MN: Winston Press. [M]

Each chapter in the book covers one of the following myths that the author believes are commonly held about computers and learning: 1) Computers are neutral--they're just another tool. 2) There is such a thing as computer literacy, and every graduate of our schools needs to have it. 3) Using the computers is the most effective way for most students to learn most subjects. 4) Computers will revolutionize our schools. 5) The lessons of the past about introducing new technology into the schools are clear and obvious. 6) All responsible parents who can possibly afford it should buy computers for their children. 7) There is not much software that can be used effectively to increase learning.

Newill, B. H., Goyette, C. H., & Fogarty, T. W. (1984, April/May/June). Diagnosis and assessment of the adult with specific learning disabilities [Special issue]. Journal of Rehabilitation, pp. 34 - 39. [LD]

The authors review what information is currently available regarding the definition, diagnosis, and evaluation of adults with specific learning disabilities. They conclude the article stressing that a thorough and complete diagnosis and assessment cannot be over-emphasized, and that an adequate assessment "is critical for clients whose handicaps are not readily apparent, as in the case of learning disabled individuals."

Oates, W. R. (1984). The importance of the teacher in computer-assisted basic writing skills review. In G. Akst (Ed.), Microcomputers and Basic Skills in College (pp. 32 - 34). New York: The City University of New York, Instructional Resource Center. [M & C]

This study was originally conducted to explore the learning achievement of students using computer-assisted instruction in eight beginning newswriting classes at Indiana University's School of Journalism. However, because the eight instructors involved in the study differed in the ways they used CAI in their classes, the researcher also explored instructor differences and their consequences for student learning. One important finding is that the mean CAI study time for students in classes where the CAI resource was made available on a voluntary basis was less than the mean CAI study time for students in the classes with required CAI study time. The author reports other findings as well.

Palmer, D. J., Drummond, F. Tollison, P., Zinkgraff, S. (1982). An attributional investigation of performance outcomes for learning-disabled and normal achieving pupils. The Journal of Special Education, 16(2), 207 - 219. [LD]

The authors interpret the LD pupil's history of failure in light of attributional research and learned helplessness literature which suggests that poor performance history can result in the development of attributions leading to lowered expectations for future performance, negative affect, and less persistence when encountering difficult tasks. The purpose of the study was to examine the effect of two attributional conditions: 1)performance history of LD and normal achieving pupils, and 2) current performance (completion or non-completion of a performance task) on four dependent variables - pupil's attributions, expectancy shifts, affective reactions, and persistence. The authors found that "ability attributions differed for LD and normal achieving pupils. In addition, effort was judged as more important in determining success than failure for both LD and normal achieving pupils." LD students were also found to be less persistent and were judged by teachers to be more learned helpless that NA peers.

Papert, S. (1980). Mindstorms: Children, computers and powerful ideas. New York: Basic Books. [M]

The author discusses the ways in which the computer can contribute to mental processes, not only instrumentally, (but also how it influences how people think) even when they are far removed from physical contact with the computer. Much of the discussion refers to LOGO, a computer language of his own design, and is within the framework of Piagetian theory.

Perkins, D. N. (1985, September). The fingertip effect: How information processing technology shapes thinking. Educational Researcher, 14(7), 11 - 17. [M]

The author examines contemporary beliefs about the effects of information processing technology on thinking. "Whereas some suggest that learning to program and other contacts with information processing technology will empower thinking, it is argued from both theory and evidence that typical contacts with information processing technology today do not meet certain conditions for significantly reshaping thought. Whereas other suggest that information processing technology will have a narrowing and dehumanizing influence, it is argued that the striking diversification of information processing technology now underway will eventually allow for many styles of involvement. In the long term, as this diversification spreads to nearly all aspects of society, thinking may change in certain basic ways as it has in response to literacy and print."

Piper, K. L. (1983, November) Beyond basic skills: Using the microcomputer to extend basic skills instruction in the language arts. Paper presented at the Annual Meeting of the National Council of Teachers of English, Denver, CO.

Polloway, E. A., Patton, J. R. , & Cohen, S. B. (1981). Written language for mildly handicapped students. Focus on Exceptional Children, 14(3), 1 - 15. [LD & C]

This article begins by describing general assessment and instructional principles for students who are mildly handicapped: learning disabled (LD), mildly retarded (EMR), and emotionally or behaviorally disordered (ED). The second focus is on approaches to remedial programming in terms of a conceptual model of the writing

process that involves the following components: input, motivation, purpose, mechanics, proofreading, and completed products. The article concludes with a list of suggestions for written language evaluation instruments.

Poplin, M. (1983). Assessing developmental writing abilities. Topics in Learning and Learning Disabilities, 3(3), 63 - 75. [LD & C]

This article begins with an extensive review of the literature pertaining to the development of oral and written language, and reading behavior in young children. Based on the research, the author suggests that the child's ability to listen, speak, read and write develops simultaneously rather than sequentially, and that this information affects the present definition of early writing, assumptions about the emergence of writing abilities, and the current assessment practices. Also presented are formal and informal assessments used to study and test written language development in learning disabled children and adolescents. While these approaches tend to emphasize the mechanical aspects of writing, there are new evaluative approaches that emphasize content, maturity, complexity, and purpose approaches such as holistic evaluation. To conclude the author presents a schema of developmental writing activities and proposes possible assessment strategies for each.

Price, B. J. (1984, January). The tape recorder as an instructional aid in special education. Educational Technology, pp. 42 - 44.

Putnam, M. L. (1984, January). Postsecondary education for learning disabled students: A review of the literature. Journal of College Student Personnel, pp. 68 - 75. [LD]

In this article, LD college student characteristics are classified into three categories: academic characteristics, processing characteristics, and social and emotional characteristics. The author's review of literature reveals that the academic characteristics of LD students are similar to those found in high school LD students, including severe underachievement, problems in automaticity, perceptual confusion, poor comprehension, and short attention span. Additionally, postsecondary LD students are hindered by processing characteristics, especially inadequate study skills, and consequently are classified as

inactive learners who do not interact with the material presented to them. Also, LD students exhibit poor self-concepts, social immaturity, and inadequacies in social situations. The author finds there is a paucity of college programs for LD students and attributes this to cost, attitudes, and lack of data on incidence and characteristics. Finally, colleges must comply with established legal foundations in order to accomodate the learning disabled student. [LD]

Rock, L. (no date). Developmental dyslexia and literary creativity: Creativity in the area of deficit. Journal of Learning Disabilities, pp. 262 - 263. [LD & C]

This is a short case history of one of the authors' patients, a young man with developmental dyslexia and emotional problems, that attempts to explain the patient's literary creativity. The author finds it striking that his patient's creative work is literary and consequently in the area of his primary disability, dyslexia. He provides several explanations for this behavior, citing Adlers' personality theory, and suggests that, despite their deficits, many dyslexics have special adaptive traits that work to their advantage, such as persistence and superior grasp of spatial concepts. The author makes primary use of the psycho-social perspective of the patient.

Rawitsch, D. G. (1983). Minnesota's statewide push for computer literacy. In A. P. Mizell & T. H. Beebe (Eds.), Computer Education (pp. 9 - 10). Lexington, MA: Ginn Custom Publishing.

Rodrigues, R. (1984, January). The computer-based writing program from load to print. English Journal, PP. 27 - 30. [M & C]

A reasoned sketch of the current use of microcomputers in composition curricula. The author describes Helen Schwartz's prewriting program and the Bell Laboratories' Writers Workbench as demonstrations of available programs.

Rodrigues, R. J., & Rodrigues, D. W. (1984, February). Computer-based invention: Its place and potential. College Composition and Communication, 35(1), 78 - 87. [M & C]

The author contends that computer-based invention programs

such as those of Burns, Wresch, and Schwartz, promise to help students understand and use heuristics for invention with far "more facility than typical classroom intruction allows." Several illustrations of recent computer-based invention programs are included. The article closes with a statement regarding the need for more detailed research into all aspects of word processing and microcomputer use in classroom.

Rosegrant, T. (1985). Using a microcomputer as a tool for learning to read and write. Journal of Learning Disabilities, 18(2), 113 - 115. [LD & M & C]

Through observation and clinical work of learning disabled children using microcomputers the author identifies four factors that help to clarify the underlying needs of LD learners that may enable these children to gain literacy. The first factor involves the use of the microcomputer to provide visual, auditory and motoric modes of support for learning disabled children. The second factor involves the use of the microcomputer to lower the risks encountered in making errors. The third factor is the high degree of control over the reading and writing tasks which result from the use of the microcomputer. The final factor is that the micropcomputer can provide a meaningful learning context in which exploration and analysis of written language can occur.

Rosenbaum, N. J. (1984, February). Problems with current research using the microcomputer. Paper presented at the Spring Conference of the Delaware Writing Council and Villanova University's English Department, Villanova, PA. [M & C]

An overview of current research using the microcomputer and word processor as a means to help student writers revise, edit, and produce final drafts. The primary focus is on the limited ability writer, or the reluctant writer, since teachers of remedial writing classes using traditional textbook methods have been unable to help these students. The author stresses the following benefits to using the computer: "(1) multiple choices of draft can easily be printed for use in peer editing groups, (2) final drafts can be displayed without the stigma of poor handwriting, (3) the absence of handwriting encourages large revisions, and (4) revisions can be more easily done in stages, leaving writers free to concentrate on different aspects of revising at

different times."

Ross, D., & Bridwell, L. S. (in press). Computer-aided composing: Gaps in the software. In S. Olson (Ed.), CAI and the Humanities. NY: MLA and NEH. [M & C]

After several years of researching a variety of educational software, the authors have discovered two kinds of software that are of some use to teachers of college level writing courses: 1) programs that analyze student writing and 2) programs that aid in invention. They address the limitations of programs which analyze writing and provide a brief description of some of these programs: Grammatik, Writer's Workbench and Epistle. Other programs such as Hugh Burn's, TOPOI, and Ruth Von blum's, WANDAH have been developed to stimulate students to generate topics and extend ideas. They mention an experimental program, Recording Wordstar (Bridwell, Sirc, & Brooke, in press), which "makes it possible to play back an 'instant replay' of the writing just as it was produced in real time". Two suggestions that address the problem of the need for improvement of commercial software are: 1) bring specialists from several disciplines together with expert programmers and programmer analysts to develop software and 2) design generic programs that do not contain specific content (using current hardware and software that is commercially available), but allow teachers to leave messages for students to see at any time.

Sabatino, D. A. (1981). Secondary and postsecondary aspects of the learning disabled. In D. A. Sabatino, T. L. Miller & C. Schmidt (Eds), Learning disabilities: Systematizing teaching and service delivery. Rockville, MD: An Aspen Publication.

Sabatino, D. A., Miller, T. L., & Schmidt, C. (1981). Learning disabilities: Systemizing teaching and service delivery. Rockville, MD: An Aspen Publication. [LD]

This book addresses the practical issues that confront learning disabled specialists or practicioners from a number of vantage points. It has been prepared for in-service audiences but can also serve as a textbook for graduate students in problem, methods, or assessment-type courses. Chapter 1 reviews the current issues.

Chapter 2 and 3 examine formal and informal assessment procedures in detail. Chapter 4 evaluates current instructional materials. Chapter 5 looks at usable teaching materials, and complementing chapter 5, chapter 6 discusses learning objectives and intervention strategies in five areas: motor, perceptual, language, academic, and vocational. Chapters 7, 8, and 9 discuss program development and implementation at all age and grade levels. Chapter 9 is probably most relevant to this project with its' extensive focus on the secondary and post secondary educational aspects of the learning disabled. Finally, Chapter 10 reviews the social objective perspective.

Schuelke, D. & King, D. T. (1983, April) New technology in the classroom: Computers and communication in the future. T. H. E. Journal, pp. 95 - 100. [M & C]

The purpose of this paper is to review research in computer-assisted instruction used for communication areas such as reading comprehension, literacy, spelling, vocabulary development, invention of ideas, writing, and interpersonal communication.

Schwartz, H. J. (1982, February). Monsters and mentors: Computer applications for humanistic education. College English, 44(2), 141 - 152. [M & C]

This is a progess report for educators in English classes who may be unfamiliar with computer applications. The author comments on the characteristics, capabilities, limitations, and dangers of various kinds of computer applications. She also suggests how to obtain computer programs, evaluate, and integrate them into an educational setting, and provides suggestions for developing computer-aided instruction programs.

Schwartz, H. J. (1984). Teaching writing with computer aids. College English,46(3), 239 - 247. [M & C]

This paper reports on the educational philosophy and practice the author has developed to incorporate word processing and computer-assisted instruction into her own freshman English class. Students work on Apple microcomputers and use word processing programs, (Applewriter II) along with other computer-assisted

instruction and text feedback programs. Student assignments include ten ungraded papers to which the student writer gets peer group response and instructor comments as feedback. Five of these papers are then revised by the student writer, and turned in to be graded. This paper also includes a synopsis of the computer aids that help with various skills and steps of the composing process, and that are used throughout the duration of the instructor's course. These programs have been divided into three distinct areas: Invention, where students get help coming up with something to write using several different computer-aids. (TOPOI by Hugh Burns, BURKE by Kenneth Burke, and SEEN, developed by the author, are several programs that are mentioned in this section.) Organization, helps students to bridge the gap between invention and writing, enabling them to simplify the tasks involved by systematically prompting them to consider their thesis, audience, purpose and what material is important for developing their thesis. (the program ORGANIZE, developed by the author, is introduced as an aid to organization.) Revision, where students find the revision process easier, the ideas always look neat, and a draft can be available by the push of one button.

Schwartz, H. J. (1984). SEEN: A computer program for hypothesis testing in prewriting. In G. Akst (Ed), Microcomputers and Basic Skills in College(35 - 37). New York: The City University of New York, Instructional Resource Center. [M & C]

This essay describes the author's own computer program, SEEN (Seeing-Eye Elephant Network), developed to "encourage more active learning for students in large English classes. The program asks users to create and test hypothesis and then to refine their ideas by sharing them with others on a computerized network." The student does not produce an essay, but the program is designed to enhance the student's perceptions of data in the field. The author contends that this program "provides a learning and writing environment perscribed in theory: a heuristic for invention and audience feedback in a nonthreatening environment." There are two SEEN programs available, "one for testing hypotheses on characterizations in literature and another for hypotheses on analyzing and classifying a work of art." [M & C]

Schwartz, H. J. (1985). Interactive writing: Composing with a word processor. New York: Holt, Rinehart and Winston. [M & C]

Primarily written as a textbook for writing classes, this book contains many activities that use computer technology to make the writing process easier and more efficient. The chapter headings include: "1) What is Interactive Writing? 2) Defining the Writing Situation. 3) Finding Something to Say. 4) Considering the Audience. 5) Organizing Ideas. 6) Writing It Down. 7) Reviewing to See It Whole. 7) Marking the Reader's Trail-Coherence and Pace. 9) Polishing for Readability. 10) Researching with Data Bases." Also included as part of the appendix is a chapter on computer vocabulary and care for disks as well as a chapter on suggestions for paper topics.

Schwartz, H. J., & Bridwell, L. S. (1984). A selected bibliography on computers in composition. College Composition and Communication, 35(1), 71 -77. [C & M]

The authors' main purpose is to enable the teacher of composition to find the most important work currently available on computers in composition. The bibliographic citations and annotations include topics such as: what computer programs are available for computer-assisted instruction, how computer-assisted instruction and word processing programs are being used together for instruction, and what results can be anticipated. They also include sources for further information and a list of relevant magazines and recent popular books on computers and writing.

Schwartz, M. (1982, November). Computers and the teaching of writing. Educational Technology, pp. 27 - 29. [M & C]

The authors' main tenet is that the computer can encourage writers of all ages to attempt more substantive changes in text by reducing the frustrations of recopying, by facilitating reading of the text during intermediate writing stages, and by reproducing multiple drafts of the text for easy sharing with the faculty and peers during intermediate writing stages. Through interviews with students and faculty at Princeton University who were part of an NSF sponsored study to use computers to write and share research-in-progress, the author relates the benefits of the computer in a postsecondary classroom. These are: 1) Students wrote and prepared work more carefully. 2) Students were better able to present difficult material in a

clear, readable manner because of audience response. 3) Writers are less defensive about taking suggestions. 4) Writers who have difficulty getting started found that the screen terminal often stimulated a flow of words that paper inhibited. 5) Writers found that being able to read clean drafts allowed them to reread and revise more objectively. 6) Writers with mechanical difficulties such as poor handwriting and spelling found that the computer boosted their self-confidence as well. 7) Several writers said they planned better. [M & C]

Selfe, C. L., & Kiefer, K. E. (Eds.). (1985, February). Computers in Composition Newsletter, 2(2). [M & C]

This issue features the following five articles: Prewriting Invention Without Special Hardware by Peggy Harris, Teaching Writing Through Programming by Linda Hyler, Planning and Implementing the Right Word Processing System by Thomas Brownwell, Marking Papers and Record Keeping for Apple Users by Robert Lucking, and BOOK REVIEW: Writing in the Computer Age: Word Processing Skills and Style for Every Writer by Andrew Flugelman and Jeremy Joan Hewes, reviewed by Janey Y. Downing. To obtain more information about this newletter contact: Cindy Selfe, Department of Humanities, Michigan Tech University, Houghton, MI 49931

Selfe, C. L., & Kiefer, K. E. (Eds.). (1984, November). Computers in Composition Newsletter, 2(1). [M & C]

This issue features the following eight articles: The Word Processor and the Writer by Charles Moran, How "Friendly" Should Effective Software Be? by Jack Jobst and Billie Wahlstrom, Word Processing and High School Writing by Pamela Farrell, Notes on the ICEA "Computers in Composition" Conference by Barbara Davis, Beyond the Classroom with Computers by Robert Papinchak, Introducing the Word Processor by Lorie Roth, Composition Students experience Word Processing by Samila Nickell, and Public Domain Software by Roger Schlobin. To obtain more information about this newletter contact: Cindy Selfe, Department of Humanities, Michigan Tech University, Houghton, MI 49931

Selfe, C. L., & Kiefer, K. E. (Eds.). (1984, August). Computers in Composition Newsletter, 1(4), 1 - 13. [M & C]

The following seven articles are featured in this newsletter: What is EPISTLE? by Christine Neuwirth, David Kaufer, & Cheryl Geisler, Selling the Skeptic: Computers in the Humanities by Carmen Cramer, Saving Grace: Recovering & Preserving Files & Data by Roger Schlobin, Computers and Tutors by Joan Garcia Kotker, Computer Debating by Gary Stephens, The English Microlab Registry: A Tool for Researchers in Computers & Composition by Thomas Barker, Wordstar Tips by Roger Schlobin.

Selfe, C. L., & Whalstrom, B. J. (1982). The benevolent beast: Computer-assisted instruction for the teaching of writing (Eric Document Reproduction Service No. 234 398). [M & C]

This paper looks closely at Wordsworth II, a computer program developed cooperatively by English teachers and computer scientists at Michigan Technological Laboratory to address all parts of the writing process including: prewriting strategies, inventing topics, freewriting, proofreading, etc. "Wordsworth II consists of eight, process-based modules, each one focused on one of eight writing assignments most commonly given in college composition classes: description, personal writing, narration, classification, evaluation, persuasion, literary analysis, and creative writing."

Smith, M. L.(1982). How educators decide who is learning disabled. Springfield, IL: Charles C. Thomas, Pub

Southwell, M. G. (1983, Summer). Computer-assisted instruction in composition at New York College/CUNY: Grammar for basic writing students. The Writing Instructor, 2(4), 165 - 173. [M & C]

This program enlists systematically designed instruction in grammar to benefit basic writers at the City University of New York. The author refers to basic writers as those students "whose writing is characterized by severe problems of correctness and clarity." The benefits and power of using computer-assisted instruction over conventional classroom and workbook instruction are also discussed within the context of the instructional needs of the basic writer.

Special issue: Microcomputers' place in special education. (1982). Exceptional Children, 49, 100 - 153. [LD & M & C]

This issue of Exceptional Children contains twelve articles that concern the topic of using microcomputers in special education. Several examples of the general scope of this issue include: Computers and Education for Exceptional Children: Emerging Applications by Charles K. Stollard, Microcomputer Software for the Handicapped: Development and Evaluation by A. E. Hannaford and Florence M. Taber, and CAMEO: Computer-Assisted Management of Educational Objectives by Nancy Brown. This issue also contains an index for advertisers and a section on current research in progress.

Stromberg, L. & Kurth, R. J. (1983, December). Using word processing to teach revision in written composition. Paper presented at the Annual Meeting of the National Reading Conference, Austin, TX. [M & C]

This paper describes a program where sixteen eighth grade students used the word processor to complete written assignments or practice composing skills for school. The students used the "Easy Script" software that has been developed for the Commodore 64 microcomputer. The authors discuss their results in terms of observations of the students and a questionnaire measuring student attitudes toward writing. They found that students were more likely to share their work with each other when working in the computer lab and suggested that the computer lab can help to provide a sharing and supportive classroom atmosphere for writing students.

Terdiman, R., & Kirsch, M. (1984). Questions concerning computer-assisted instruction. In G. Akst (Ed.), Microcomputers and Basic Skills in College (pp.8 - 12). New York: The City University of New York, Instructional Resource Center. [M]

The authors develop and provide very basic answers to their own questions concerning computer-assisted instruction. Some of the questions that are included are: What are the features that I should look for when I evaluate a computer-based training system? How do I go about obtaining courseware which I can use for my own purposes? Is it true that students are resistant to computer-based instruction? In

what direction is the computer industry moving?

Torrance, E. P. (1981). Implications of whole-brained theories of learning and thinking for computer-based instruction. Journal of Computer-Based Instruction, 7(4), 99 - 105. [C]

A review of the research on whole-brained theories, showing that the left cerebral hemisphere is primarily specified for verbal, analytical, abstract, temporal, and digital operations. The same research also shows that the right hemisphere is specialized for nonverbal, holistic, concrete, spatial, analogic, creative, and aesthetic functions. The author briefly looks at some computer applications, such as drill and practice, tutoring, simulations and games, information retrieval, and problem solving in relation to the theories of whole brained learning and thinking.

Townsend, C. (1984). Exploring word processors. Beaverton, OR: dilithium Press. [M]

This is a thorough guide book for novices of word processing, word processors and word processing software. Also includes a glossary of terms and bibliography of appropriate citations.

Trembley, P. W. (1982). Vertical word processing: A new approach for teaching written language to the learning disabled adolescent. Journal of Learning Disabilities, 15, 587 - 593.

Vetter, A. A. (1983). A comparison of the characteristics of learning disabled and non-learning disabled young adults. (Doctoral dissertation, University of Kansas, 1983). Dissertation Abstracts International.

Vogel, S. A. (1982). On developing LD college programs. Journal of Learning Disabilities, 15(9), 518 -528.

This article opens with a reference to Section 504 of the Rehabilitation Act of 1973, a civil rights act for disabled individuals. This Act maintains that Universities and Colleges, in order to be in compliance with the law, must identify which applicants are handicapped. This is hard to discern in the case of learning disabilities,

because in so many students the learning disability is not blatantly apparent, and often times a student is afraid to admit to having a learning disability for fear it may stigmatize their academic future. This extensive article is to help Universities and Colleges that are in the process of planning, initiating, or developing programs for LD college students, to begin to examine the critical issues involved with such programming. Special areas covered include: The planning phase, special needs of the LD student, programming considerations, and communication considerations.

Vogeli, B. (1984). Redefining basic skills in a computer culture. In G. Akst (Ed.), Microcomputers and Basic Skills in College (pp.5 - 7). New York: The City University of New York, Instructional Resource Center. [M]

A very brief and general conceptualization of the future of computer-related skills as they relate to what is defined today as "basic skills". The author discusses three categories of basic skills that will be influenced as a result of the computer culture: technique or operation, concepts, and knowledge or thought.

Wall, S. M., & Taylor, N. E. (1982, February). Using interactive computer programs in teaching higher conceptual skills: An approach to instruction in writing. Educational Technology, pp. 13 - 17. [M & C]

The authors' basis is that learning to use language in an elaborated content-free form is a major task in the development of efficient writing skills. Teaching children how to use the mechanics and conventions of written language represents an important but secondary focus in the teaching of effective written communication. On the other hand, "curricular activities designed to give the learner experiences that allow him or her to understand the way language works to make meaning explicit, and to practice using language effectively to communicate meaning" (refered to as integrated writing skills later in the paper), should serve as a primary focus. The authors discuss the advantages of using microcomputers to teach integrated writing skills, and provide an interactive computer-assisted instructional model for writing.

Walmsley, S. A. (1984). Helping the learning disabled child overcome writing disabilities in the classroom. Topics in Learning and Learning Disabilities, 3(4), 81 - 90. [LD & C]

In this paper the author examines the problems that teachers face as they work to improve the writing ability of learning disabled students. The definition of a writing disability is discussed in terms of: transcription skills - involving knowledge of spelling, punctuation, grammar, and the skill of handwriting, and composition skills - refering to the intellectual and emotional act of constructing a message. Although there are textbooks and essays that encompass the remediation of writing disabilities, traditionally, the little coverage that is given is devoted almost entirely to transcription skills, with very little mention of the development compositional skills. The author outlines an approach to teaching writing to students with writing disabilities that is an alternative to the traditional learning disability programs. The following techniques are recommended: 1) give equal attention to reading and writing in the classroom, 2) pay more attention to composition skills than to transcription skills, 3) vary the topics to include those related to school, work, and personal activities, 4) help students through successive drafts of each assignment.

Watt, D. (1984, October). Practical teaching tools. Popular Computing, pp. 545 - 59. [M & C]

The author argues that computers and software can change the educational experience for children, and that schools lag behind the rest of society, for whatever reason, in using computers-as-tools for class adminstration, computer-assisted instruction, word processing, etc.

White, E. M. (1985). Teaching and assessing writing. San Francisco: Jossey-Bass Publishers. [C]

The first five chapters of this book discuss "the relation of teaching to assessment in current practice, the history and meaning of 'basic skills' in reading and writing, and the ways that holistic scoring of student writing supports a humanistic attitude toward writing." These chapters also look at different definitions of writing proficiency and the recent theories of reading. Chapters six through ten concentrate on

practical applications of the principles that are discussed in chapters one through five, particularly scoring methods, measurement problems, and evaluation procedures. The final chapters provide an overview of classroom, program and research issues in assessment and writing.

White, W. J. (1985). Perspectives on the education and training of learning disabled adults. Learning Disabilities Quarterly, 8, 231 - 236. [LD & CA]

This article covers the research findings in the following areas: social and vocational adjustment of LD adults, education and training of LD adults, and implications for further research. Suggestions for future research include: 1) Systematic research concerning the relationship between the characteristics of LD adults and the situational demands of adult life. 2) Systematic research concerning setting demands in postsecondary educational institutions. The author also provides priorities for future instruction and programming for LD adults: 1) Provision of career and vocational education to school-aged LD children and youth is essential to ensure successful adult adjustment. 2) Vocational interest and skill instruments must be modified to accomodate LD individuals. 3) Training in adult education must be made available to professionals.

White, W. J., Schumaker, J. B., Warner, M. M., Riley, G. R., & Deschler, D. D. (1980). The current status of young adults identified as learning disabled during their school career (Research Report #21). Lawrence, KS: The University of Kansas, Institute for Research in Learning Disabilities. [LD & CA]

The authors present their own efforts to study the personal, social and vocational success of learning disabled and non learning disabled young adults. One important finding indicated that LD young adults were significantly less satisfied with their employment situation and their interactions with their parents and friends, than non learning disabled young adults. They also found that LD young adults were not as involved in social and recreational activities and did not have plans to continue their education into college. The authors press for further research to examine whether the behavior and learning problems of LD persons persist into adulthood and affect post-school adjustment.

Womble, G. G. (1984, January). Process and processor: Is there room for a machine in the English classroom. English Journal, pp. 34 - 37. [M & C]

This article describes the author's own experience integrating word processing into her tenth grade English classroom. She includes student testimonials as well as her own basic observations of students who write and revise with word processors. One of the most difficult problems was scheduling 102 students to use one computer.

Wong, B. (no date). Metacognition and learning disabilities. (Research Report No. 82-03. Burnaby, B.C., Canada: Simon Fraser University, Instructional Psychology Research Group. [LD]

This report describes research in the area of metacognition and its' impact on the field of learning disabilities."The purpose of the chapter is twofold: 1) to delineate the reasons why ability deficits per se cannot account for the total variance underlying learning-disabled students' learning and performance difficulties; and 2) to assess the contributions and limitations of an added metacognitive dimension to learning disabilities." The author begins the article by clarifying the two terms, learning disabilities and metacognition.

Wresch, W. (1985). Computers and composition instruction: An update. College English, 45(8), 794 - 799. [M & C]

A comprehensive overview of the most recent pre-writing - revision programs and research projects that have been developed to demonstrate the use of the computer to teach writing skills to students. The author describes Helen Schwartz's new pre-writing system that has two parts, "one in which students respond to a computer, and one in which students use the computer to respond to fellow students". Other programs illustrated in this article are, Writers Workbench, developed by Bell Laboratories, Ruth Von Blum's Wandah (Writers' and Authors' Helper), Cynthia Selfes' program, Wordsworth II, and the authors' own project, Essaywriter. The research projects included in this article are those of Colleen Daiute, at Teachers' College, Columbia University, and Lillian Bridwell and Donald Ross, at the University of Minnesota.

Wresch, W. (1984). The computer in composition instruction: A writers tool. Urbana, IL: National Council of Teachers of English. [M & C]

This book is a collection of written contributions describing projects that are being or have been developed to study how computers might be used to teach writing. Additional information about program development and operation, as well as the classroom use of computers, is included. Observing a pattern emerging from the articles, the editor cites six advantages that are gleaned from these reports: 1) individualized instruction, 2) most good programs provide help when help is needed, 3) the availability of newer computer composition programs, such as "feature analysis", 4) the computer is an effective use of students' time, 5) computers help students to see prose as "fluid", and 6) the computer allows the students freedom to write. The contributions fit within four areas of program development or research; prewriting approaches, editing and grammar programs, word processing research and applications, and programs for the writing process. The contributing authors include: Major Hugh Burns, Dawn Rodrigues and Raymond Rodrigues, Helen Schwartz, Kathleen Kiefer and Charles Smith, Michael Cohen and Richard Lanham, Michael Southwell, Lillian Bridwell and Donald Ross, Stephen Marcus, Colette Daiute, William Wresch, Ruth Von Blum and Michael Cohen, Cynthia Selfe, and Christine Neuwirth. This book also provides an annotated bibliography by Bruce Appleby and a glossary of computer terms.

Zinsser, W. (1985). Writing and rewriting with a word processor. In W. Zinsser (Ed.), On writing well (3rd ed.). New York: Harper & Row. [M]

This chapter deals with the author's personal experience of overcoming the fears of writing on a word processor.

Zinsser, W. (1985). On writing well (3rd ed.). New York: Harper & Row.